Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) An apparatus for positioning an optical component, arranged in a receiving device ~~(1)~~ together with several optical components, said apparatus comprising:

[[-]] said receiving device ~~(1)~~ being rotatable about an axis ~~(3)~~ or movable along a direction and being retainable in several retention positions;

[[-]] said optical component being positionable in a corresponding retention position ~~said receiving device (1) thereto~~;

[[-]] a coding device ~~(4)~~ having at least one first coding means with a first width and at least one second coding means with a second width ~~(5, 9)~~, and

two detectors ~~(6, 7)~~ for detecting the first and second coding means ~~(5, 9)~~;

[[-]] wherein said coding device ~~(4)~~ or the two detectors ~~(6, 7) being~~ are associated with said receiving device ~~(1) for detecting position of said receiving device~~;

wherein ~~and~~ the two detectors detect the first and second ~~(6, 7) detecting~~ coding means ~~(5, 9)~~ at spatially different points, and

[[-]] wherein said coding device ~~(4) being~~ is embodied in such a way that ~~on the one hand~~ the two detectors ~~(6, 7)~~ detect the first coding means ~~(9)~~ simultaneously when the receiving device ~~(1)~~ is located in a retention position, and no more than ~~on the other hand only~~ one of the two detectors ~~(6, 7)~~ detects the second coding means ~~(5)~~ when the receiving device ~~(1)~~ is located in a region ~~(16, 18)~~ between two adjacent retention positions.

2. (Withdrawn – Currently Amended) The apparatus as defined in Claim 1, wherein the coding means ~~(5, 9)~~ are detectable electronically~~, preferably~~ by ~~means of~~ microswitches, wiper contacts, or capacitative or inductive sensors.

3. (Withdrawn – Currently Amended) The apparatus as defined in Claim 1, wherein the first and second coding means ~~(5, 9)~~ are detectable magnetically~~, preferably~~ by ~~means of~~ Hall sensors.

4. (Withdrawn – Currently Amended) The apparatus as defined in Claim ~~3~~1, wherein the first and second coding means ~~(5, 9)~~ encompass permanent magnets that ~~preferably~~ are embodied substantially as strips and are arranged substantially transversely to the motion direction of the receiving device ~~(1)~~.

5. (Currently Amended) The apparatus as defined in Claim 1, wherein the first and second coding means ~~(5, 9)~~ are detectable optically~~, preferably~~ by ~~means of~~ a light barrier. ~~barriers, in particular using a fork light barrier (8) or a double-reflection light barrier.~~

6. (Currently Amended) The apparatus as defined in Claim ~~5~~1, wherein the first and second coding means ~~(5, 9)~~ encompass slits, struts, or reflective regions that are arranged substantially transversely to the motion direction of the receiving device ~~(1)~~.

7. (Currently Amended) The apparatus as defined in Claim 5, wherein a ~~the~~ light source ~~(23)~~ of the light barrier ~~(8)~~ is switched off when the receiving device ~~(1)~~ is located in a retention position.

8. (Currently Amended) The apparatus as defined in Claim 1, wherein a retaining device ~~(10)~~ is provided that is arranged in a stationary fashion and retains the receiving device ~~(1)~~ in a retention position~~, preferably~~ on a mechanical basis.

9. (Currently Amended) The apparatus as defined in Claim 8, wherein the retaining device ~~(10)~~ encompasses a roller or ball ~~(11),~~ mounted with force impingement; [[,]]

wherein, ~~that~~ as a result of the force impingement, the roller or ball presses into a locking notch ~~(12)~~ provided on the receiving device ~~(1)~~, and

wherein the locking notch encompasses ~~(12) preferably encompassing~~ a capture ramp ~~(13)~~.

10. (Currently Amended) The apparatus as defined in Claim 1, wherein the two detectors ~~(6, 7)~~ are arranged with respect to one another in such a way that they detect the first and second coding means ~~(5, 9)~~ at an effective distance D, and

wherein the distance D ~~preferably being of~~ is the same order of magnitude as the dimensions of the first and second coding means ~~(5, 9)~~.

11. (Currently Amended) The apparatus as defined in Claim 10, wherein the coding device ~~(4)~~ is embodied in such a way that, in each retention position of the receiving device, ~~(1)~~ there is provided, at the points where ~~of~~ the coding device is ~~(4)~~ detected by the detectors ~~(6, 7)~~, ~~a~~ the first coding means ~~(9)~~ which has an effective width B that is greater than or equal to the effective distance D of the detectors ~~(6, 7), i.e. B ≥ D~~.

12. (Currently Amended) The apparatus as defined in Claim 10, wherein the coding device ~~(4)~~ is embodied in such a way that there is provided, in each retention position of the receiving device ~~(1)~~, at the points of the coding device ~~(4)~~ detected by the detectors ~~(6, 7)~~, ~~a~~ the first coding means ~~(9)~~ which has an effective width B that is less than or equal to the width E of a ~~the~~ capture region of a ~~the~~ retaining device ~~(10)~~.

13. (Currently Amended) The apparatus as defined in Claim 1, wherein the coding device ~~(4)~~ is embodied in such a way that, in the region ~~(16, 18)~~ of the coding device ~~(4)~~ in which the detectors ~~(6, 7)~~ detect, when the receiving device ~~(1)~~ is located at a position between two adjacent retention positions, at least two second coding means ~~(5)~~ are provided that are each at a distance T from one another which ~~preferably~~ is substantially constant.

14. (Currently Amended) The apparatus as defined in Claim 13, wherein the coding device ~~(4)~~ is embodied in such a way that, in the region ~~(16, 18)~~ of the coding device ~~(4)~~ in which the detectors ~~(6, 7)~~ detect, when the receiving device ~~(1)~~ is located between two adjacent retention positions, the coding device ~~(4)~~ has a region ~~(17)~~ without coding means, and

wherein the effective width L of ~~that~~ the region without coding means corresponds ~~(17) corresponding~~ to at least 1.1 times the distance T between two adjacent second coding means ~~(5), i.e. L ≥ 1.1 * T~~.

15. (Currently Amended) The apparatus as defined in Claim 14, wherein the region ~~(17)~~ without coding means is arranged at a different point in each of the various regions of the coding device ~~(4)~~ in which the detectors ~~(6, 7)~~ detect when the receiving device ~~(1)~~ is located between two adjacent retention positions.

16. (Currently Amended) The apparatus as defined in Claim 1, wherein a motor device ~~(20)~~ is provided that rotates or moves the receiving device ~~(1)~~.

17. (Currently Amended) The apparatus as defined in Claim 16, wherein the receiving device ~~(1)~~ is coupled to the motor ~~(21)~~ via a drive train device and/or a transfer device ~~(22)~~ serving to transfer the rotational motion of the motor to the receiving device ~~(1)~~.

18. (Currently Amended) The apparatus as defined in Claim 16, wherein a control device is provided which processes the detected signals of the two detectors ~~(6, 7)~~ and controls the motor device ~~(20)~~, and

wherein ~~the~~ output signals of the two detectors are ~~(6, 7) preferably being~~ digitally processable.

19. (Currently Amended) The apparatus as defined in Claim 1, wherein the receiving device ~~(1)~~ encompasses a turret for the reception of microscope objectives or a magazine for the reception of filter sets, and

wherein the optical components are ~~preferably being~~ arranged in an aligned fashion in the receiving device ~~(1)~~.

20. (Currently Amended) A method for positioning an optical component, said optical component being arranged in a receiving device ~~(1)~~ together with several optical components, comprising the steps:

[[-]] moving said receiving device ~~(1)~~ by rotating about an axis ~~(3)~~ or by moving along a direction thereby being retainable in several retention positions;

[[-]] positioning said optical component in a corresponding retention position by moving said receiving device ~~(1) thereto~~;

[[-]] detecting at least one of a first coding means having a first width and a second coding means having a second width; wherein said first and second coding means are ~~(5, 9)~~ associated with said receiving device ~~(1)~~;

wherein during moving said receiving device, ~~(1)~~ for detecting a position of said receiving device, said first and second coding means are detectable ~~(5, 9) being detected~~ at two spatially different points of the receiving device,

[[-]] ~~on the one hand,~~ by said detection, deriving two detecting signals simultaneously when the receiving device ~~(1)~~ is located in a retention position,

[[-]] and ~~on the other hand,~~ by said detection, deriving no more than ~~only~~ one detecting signal when the receiving device ~~(1)~~ is located in a region ~~(16, 18)~~ between two adjacent retention positions.

21. (Currently Amended) The method as defined in Claim 20, wherein an initialization of an ~~the~~ apparatus for positioning the ~~an~~ optical component is accomplished by rotation or motion of the receiving device ~~(1)~~ through at least one retention position,

wherein the first and second coding means are detectable by two detectors, and

wherein the output ~~detected~~ signals of the two detectors are ~~(6, 7) being~~ detected and evaluated.

22. (Currently Amended) The method as defined in Claim 20, wherein by detection of ~~the~~ a sequence of coding means and a ~~the~~ region without coding means, a position signal is derived which indicates the actual position of said receiving device.

23. (Currently Amended) The method as defined in Claim 22, ~~whereby~~ wherein movement or positioning of said receiving device is controlled or adjusted by ~~means of~~ said position signal.

24. (New) An apparatus for positioning an optical component, said apparatus comprising:

a receiving device being rotatable about an axis or movable along a direction and being retainable in several retention positions,

an optical component being positionable in a corresponding retention position,

a coding device having at least one first coder with a first width and at least one second coder with a second width, and

two detectors for detecting the first and second coders;

wherein said coding device or the two detectors are associated with said receiving device;

wherein the two detectors detect the first and second coders at spatially different points, and

wherein said coding device is embodied in such a way that the two detectors detect the first coder simultaneously when the receiving device is located in a retention position, and no more than one of the two detectors detects the second coder when the receiving device is located in a region between two adjacent retention positions.

25. (New) The apparatus as defined in Claim 24, wherein the first and second coders are detectable optically by a light barrier.

26. (New) The apparatus as defined in Claim 24, wherein the first and second coders encompass slits, struts, or reflective regions that are arranged substantially transversely to the motion direction of the receiving device.

27. (New) The apparatus as defined in Claim 25, wherein a light source of the light barrier is switched off when the receiving device is located in a retention position.

28. (New) The apparatus as defined in Claim 24, wherein a retaining device is arranged in a stationary fashion and retains the receiving device in a retention position on a mechanical basis; and

wherein the retaining device encompasses a roller or ball mounted with force impingement;

wherein, as a result of the force impingement, the roller or ball presses into a locking notch provided on the receiving device, and

wherein the locking notch encompasses a capture ramp.